ADDO

RA 2405/48E ZOHLBERGS TRYCKERI AB. MALMÖ 623462 SWEDEN

Directions for the use of

ADDO-X

model 353

ADDO-X

Directions for the use of the Addo-X Model 353, a Printing Calculating Machine for Addition, Subtraction and Multiplication having Credit Balance and Non-Add.

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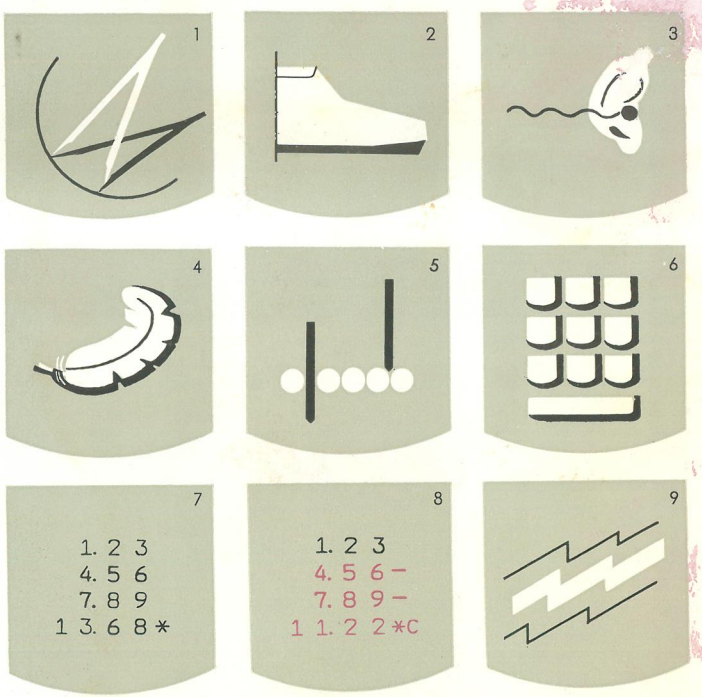
ADDO-X

Today Addo machines are used with confidenc
business people in more than a hundred countr
These widespread markets provide Addo's resea
workers with a constant flow of suggestions a
reports which stimulate imaginative new ideas to mak
calculating still simpler and still faster.

Let's take a quick look at some of the ma
features.

HIGH STYLE OUTSIDE — HIGH PRECISION

The new Addo-X presents a strikingly attractive
arance ①. The designer has managed to
to utility which has resulted in the followin
ages: — a lower keyboard giving grea
operator comfort ②.



— a streamlined cover which looks attractive and keeps clean.

— efficient casing which reduces noise giving more pleasant working conditions ③.

ROBOT-TESTED

The new Addo-X is an all Swedish quality product from an up-to-date precision engineering firm with more than forty years experience in manufacturing office machines. The basic material is Swedish electric steel — the toughest in the world. Every single part undergoes lengthy testing to ensure that it is fit for long and active service.

GREATER CAPACITY — HIGHER SPEED

The design of the new machine allows for the ever growing amount of figure work in modern offices and both the capacity and the motor speed have been increased.

CORRECT BOOK-KEEPING NOTATION

The machine prints all plus entries in black and all minus or credit entries in red ⑧.

STILL LIGHTER TOUCH

New materials and a new principle for transmission of the key movement to the selector mechanism have made this mechanism lighter, more compact and more responsive ④.

STILL QUIETER ③

The new asynchronous motor is a constant-speed motor, giving better operating reliability and longer life, and is fitted with a suppressor to prevent interference with radar, radio and television ⑨.

NEW TYPE FACE

A handsome, well cut face giving a distinct, legible print out ⑦.

SYMMETRICAL KEYBOARD WITH KEY INTERLOCK

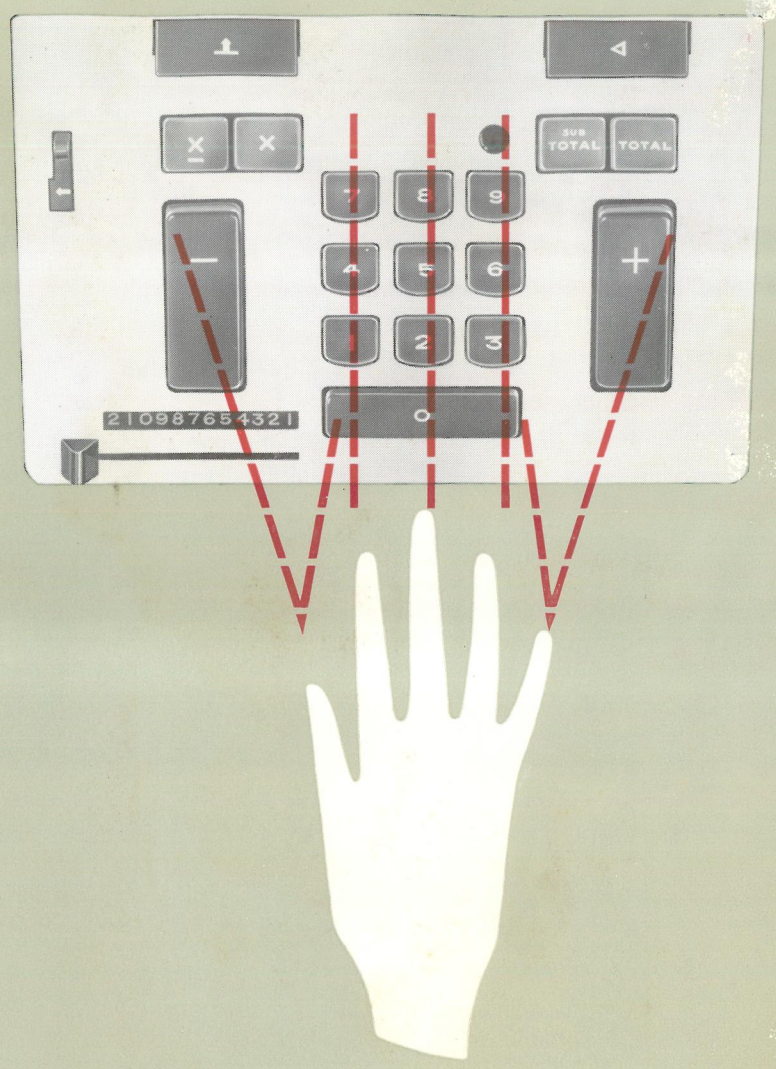
The symmetrical keyboard ⑥, exclusive with Addo, permits touch operation with either right or left hand increasing speed and accuracy. The key interlock increases accuracy still further by preventing double keying ⑤.

CAPACITY

The machine has a setting capacity of 12 digits and a totalling capacity of 13 digits.

ILLUSTRATION WITH REFERENCE NUMBERS

On page 33 you will find an illustration showing the positions of the function keys. It is possible to unfold this illustration so that you can refer to it while you are reading the operating instructions.



Whether you are left or right handed the Addo-X symmetrical keyboard enables you to use the touch method of operation, the fastest method possible.

1 Setting Up

Always check that the register is cleared before commencing any operation. This is done by depressing the total key (1) therefore every operation should commence with the symbol * on the tape.

To set up a number use the numeral keys on the keyboard (2). The white pointer in the indicator window (3b) will indicate the number of digits set.

2 Addition

Example: 125+25=150

```
        *
    1. 2 5
      2 5
    1. 5 0 *
```

1. Clear the register by pressing the total key.
2. Set 125 on the keyboard and press the plus bar (4).
3. Set 25 on the keyboard and press the plus bar (4).
4. Press the total key (1).

Note that all positive entries are printed in black.

3 Subtraction

Example: 125—25=100

```
        *
    1. 2 5
      2 5 –
    1. 0 0 *
```

1. Clear the register by pressing the total key.
2. Set 125 on the keyboard and press the plus bar (4).
3. Set 25 on the keyboard and press the minus bar (5).
4. Press the total key.

Note that all negative entries are printed in red.

```
        *
      2 5
    1. 2 5 –
    1. 0 0 *C
```

4 Credit balance

If a greater number is subtracted from a smaller number the balance in the register will be a minus quantity. The window (6) will then show a red minus sign on a white background; while there is a positive balance in the register this window is black.
If a total is taken while there is a minus balance in the register it will be printed in red and the letter "c" will precede the ordinary total or sub-total symbol.
Example: 25—125=—100

1. Clear the register by pressing the total key.
2. Set 25 on the keyboard and press the plus bar (4).
3. Set 125 on the keyboard and press the minus bar (5).
4. Press the total key.

5 Sub-total

When the sub-total key (7) is pressed the machine prints the total of the numbers entered without clearing the register so that further numbers can be added as part of the same calculation.

Example:

```
          25
        + 15
sub-total= 40
        + 95
        — 35
   total=100
```

1. Clear the register by pressing the total key.
2. Set 25 on the keyboard and press the plus bar (4).
3. Set 15 on the keyboard and press the plus bar (4).
4. Press the sub-total key (7).
5. Set 95 on the keyboard and press the plus bar (4).
6. Set 35 on the keyboard and press the minus bar (5).
7. Press the total key (1).

```
        *
      2 5
      1 5
      4 0 □
      9 5
      3 5 –
    1. 0 0 *
```

6 Corrections

If a number is set incorrectly on the keyboard it can be cleared by moving the correction key

(3a) as far to the right as it will go, (correction can also be effected by pressing the sub-total key; see the section on multiplication).

The correction key must also be used to clear the keyboard when a repeat addition or subtraction is followed immediately, without a total being taken, by another addition or subtraction.

7 Non-Add

When it is desired to print a number on the tape without it being included in the calculation (e.g. reference numbers, dates) the Non-Add key (8) is used. The number is printed together with the sign ◁ which indicates that the number has not been passed to the register.

Practice examples

```
      *          *          *          *
     1◁         2◁         3◁         4◁
  1.2 3      1.4 7      1 0.2 5    1 5 2.0 3
  4.5 6      2.5 8      2 0.3 6      7 4.0 9
  7.8 9      3.6 9      3 0.1 2        1.2 0
1 3.6 8*     7.7 4*     6 0.7 3*   2 2 7.3 2*
```

```
      *          *          *          *
     5◁         6◁         7◁         8◁
7 9 4.6 0    9 6.3 0    8 5.2 0    1 0 4.0 3
  8 5.7 9      2.0 5-     7.4 1-    9 0 7.0 8
    4.0 8      1.0 4-     8.5 2-        3.0 7-
8 8 4.4 7*   9 3.2 1*   6 9.2 7*    8 0 4.0 5-
                                    3 5 3.7 5-
                                    1 4 9.7 6*C
```


For practice in using the Non-Add key (8) give each of these calculations a reference number.

1. 123+456+789=1368
2. 147+258+369=774
3. 1025+2036+3012=6073
4. 15203+7409+120=22732
5. 79460+8579+408=88447
6. 9630—205—104=9321
7. 8520—741—852=6927
8. 10403+90708—307—80405——35375=—14976

9.
```
      7036
    + 84913
    -------
    91949
  —   407
  —    19
  -------
= 91523
```
Sub-total

10.
```
      64380
    +  3719
    —  2058
    -------
    66041
  +915820
  —123641
  —902583
  -------
— 44363
  + 35678
  +  9685
  -------
  1000
```
sub-total

sub-total

total

```
        *          *
       9◁        1 0◁
    7 0.3 6   6 4 3.8 0
  8 4 9.1 3     3 7.1 9
  9 1 9.4 9¤    2 0.5 8-
    4.0 7-    6 6 0.4 1¤
      1 9-  9.1 5 8.2 0
9 1 5.2 3*  1.2 3 6.4 1-
            9.0 2 5.8 3-
            4 4 3.6 3¤C
            3 5 6.7 8
              9 6.8 5
              1 0.0 0*
```

```
      *
  4.7 5
  4.7 5
  4.7 5
1 4.2 5*
```

8 Repeat Addition

Example: 475+475+475=1425

1. Clear the register by pressing the total key (1).
2. Set 475 on the keyboard then press the repeat key (9) and keep it depressed until the number has been printed three times.
3. Press the total key.

N. B. If this repeat addition had been followed immediately by another addition or subtraction instead of a total it would have been necessary to clear the 475 on the keyboard by means of the correction key (see section 6).

```
      *
  1 6.7 5
    2.2 5-
    2.2 5-
    2.2 5-
    2.2 5-
    7.7 5*
```

9 Repeat subtraction

Example: 1675—225—225—225—225=775

1. Clear the register by pressing the total key.
2. Set 1675 on the keyboard and press the plus bar.
3. Set 225 on the keyboard and press the repeat subtract key (10) and keep it depressed until the number has been printed four times.
4. Press the total key (1)

10 Step-O-Matic

When the machine is to be used for multiplication the lever (11) must be moved into the upper position; in all other calculations it must be in the lower position. When the lever is in the upper position the machine automatically moves up to the next higher column when one of the repeat keys (9; 10) is pressed and released i.e. from the units to the tens column, from the tens to the hundreds column, and so on.

11 Multiplication

The direct linking of the repeat key (9) with the motor and the automatic step over caused by the lever being moved to the upper position makes the Addo-X 353 ideal for multiplication.

Example: 525×3=1575.

1. Clear the register by pressing the total key
2. Set the multiplicand 525 on the keyboard
3. Press the repeat key (9) and keep it depressed until the number has been printed three times.
4. Press the total key (1).

```
        *
    5. 2 5
    5. 2 5
    5. 2 5
1 5. 7 5*
```

Example: 675×12=8100

1. Clear the register by pressing the total key and see that the lever (11) is in the upper position.
2. Set the multiplicand 675 on the keyboard.
3. Press the repeat key (9) and keeping it depressed until the number has been printed twice. Release the key, which will cause the machine to move up from the units to the tens column, and press it again while the number is printed once. You have now multiplied by 12, i.e. two units and one ten.
4. Press the total key (1).

```
        *
    6. 7 5
    6. 7 5
6 7. 5 0
8 1. 0 0*
```

N. B. The multiplicand is multiplied first by the units number, then by the tens number and so on just as one does with pencil and paper.

Note also that it is not necessary to clear the keyboard with the correction key as the repeat operation was followed immediately by a total.

Only in cases where two or more multiplications follow each other immediately and only the total of the two or more products is required is it necessary to clear the keyboard with the correction key.

If the product of each multiplication is required the total key will be pressed at the end of each multiplication so there will be no need to use the correction key.

```
          *
    2. 1 5
    2. 1 5
    2. 1 5
  2 1. 5 0
  2 7. 9 5□
  7 3. 2 5
  7 3. 2 5
  7 3. 2 5
  7 3. 2 5
7 3 2. 5 0
7 3 2. 5 0
7 3 2. 5 0
7. 3 2 5. 0 0
7. 3 2 5. 0 0
1 7. 1 6 8. 4 5*
```

Example: (215×13)+(7325×234)=1716845

1 Clear the register by pressing the total key and see that the lever (11) is in the upper position.

2. After setting the multiplicand 215 on the keyboard press the repeat key (9) while the number is printed three times, release the key and then press it again while the number is printed once.
3. Press the sub-total key (7).
4. Set the multiplicand 7325 on the keyboard and press the repeat key while the number is printed four times. Release the key, press again while the number is printed three times and finally release the key once more and press it while the number is printed twice.
5. Press the total key.

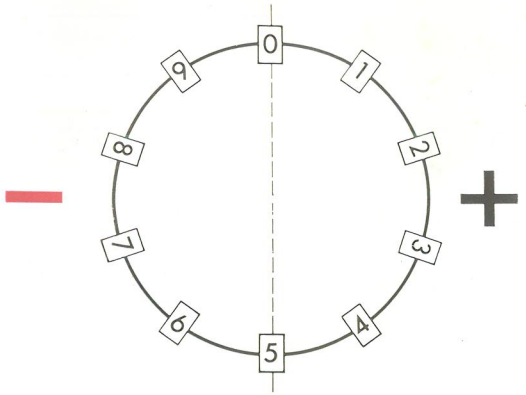
12 Short-cut Multiplication

The object of short-cut multiplication is to reduce the number of operations needed to find the product; it is sometimes known as multiplication by subtraction.

Short-cut multiplication enables you to make more efficient use of the machine and cuts the operator's work by about 40 %.

The method is founded on the fact that

9=1 from 10; 8=2 from 10;
7=3 from 10; 6=4 from 10



The figures 9 to 5 inclusive are obtained by minus revolutions (X-key).

The figures 0 to 5 inclusive are obtained by plus revolutions (X-key).

Note that the machine does not make more than five revolutions in either direction.

```
        *
    4. 2 6 –
    4 2. 6 0
    3 8. 3 4 *
```

Example: 426×9=3834
(the multiplier 9=10—1).

1. Clear the register by pressing the total key and see that the lever (11) is in the upper position.
2. Set the multiplicand 426 on the keyboard and then press the repeat subtract key (10) once and then the repeat key (9) once.
3. Press the total key (1).

```
        *
    5. 3 4 –
    5. 3 4 –
    5. 3 4 –
  5 3. 4 0 –
  5 3 4. 0 0
  5 3 4. 0 0
  9 9 8. 5 8 *
```

Example: 534×187=99858

1. Clear the register by pressing the total key and see that the lever (11) is in the upper position.
2. Set the multiplicand 534 on the keyboard.
3. Instead of using the repeat key and allowing the machine to make seven revolutions press the repeat subtract key (10) while the number is printed three times. When the repeat subtract key is released it causes the machine to move up one column just as the repeat key does.

4. After releasing the repeat subtract key press it again while the figure is printed once only (see Rule 3 below). As the last digit by which you multiply is "1" press the repeat key (9) while the number is printed **twice** (see Rule 4 below).
5. Press the total key.

Though this procedure may seem complicated at first you will soon become used to it; here are some rules to help you.

RULES

1. Use short-cut multiplication whenever a digit in the multiplier is 6 or over. When the figure 5 occurs immediately before or after a figure which is to be worked by the short-cut method a revolution can be saved by working the 5 also by the short-cut method.
2. Always start with the units and work up i.e. from right to left.
3. The first digit, counting from the right, to be worked by the short-cut method must be treated as its complement to 10 (i.e. subtract the number from ten; the answer is the complement e.g. the complement of 8 to 10 is 2 because 10—8=2). Each following digit to be worked by the short-cut method must be treated as its complement to 9 (i.e. subtract the number from nine; the answer is the complement e.g. the complement of 6 to 9 is 3 because 9—6=3). If any of the following digits are 9 skip them by pressing the zero key on the keyboard. Similarly, if the figure 0 occurs in a multiplier skip it by pressing the zero key and carry on with the next digit.
4. When a figure which is to be worked in the normal way (i.e. 0 to 5) follows immediately upon a figure which has been worked by short-cut multiplication an extra revolution must be made e.g. if the figure is 3 press the repeat key while the number is printed **four** times. If the last multiplier digit to be

worked is worked by the short-cut method a plus revolution must be made in the next column up. Therefore, after releasing the repeat subtract key press the repeat key while the number is printed once. After this press the total key to obtain the answer.

Example 1 *

```
      1 2 5. 0 0
      1 2 5. 0 0
    1. 2 5 0. 0 0
    1. 2 5 0. 0 0
    1. 2 5 0. 0 0
    4. 0 0 0. 0 0 *
```

Example 2 *

```
        6 6 6. 6 7 –
        6 6 6. 6 7 –
        6 6 6. 6 7 –
        6 6 6. 6 7 –
        6 6 6. 6 7 –
      6. 6 6 6. 7 0
      6. 6 6 6. 7 0
      6. 6 6 6. 7 0
    6 6. 6 6 7. 0 0 –
    6 6. 6 6 7. 0 0 –
    6 6. 6 6 7. 0 0 –
    6 6. 6 6 7. 0 0 –
    6 6. 6 6 7. 0 0 –
6 6 6. 6 7 0. 0 0
3 5 0. 0 0 1. 7 5 *
```

13 Division

The best method of carrying out division on a machine such as the Addo-X 353 is by the use of reciprocal tables. The reciprocal of a number is obtained by dividing that number into one. Example: 8 divided by $5 = {}^1/_5 \times 8 =$ the reciprocal of $5 \times 8 = 0.2 \times 8 = 1.6$

On page 25 you will find a reciprocal table. To find the number of decimal places that must be marked off in the answer simply count the number of digits in the reciprocal and mark off the same number of decimal places in the answer counting from right to left.

The procedure for division is as follows.

a. Find the reciprocal of the divisor in the table and set it on the keyboard.

b. Multiply by the "dividend".

c. Mark off as many decimal places in the answer as there are digits in the reciprocal. This rule applies only when both divisor and dividend are whole numbers; when there are decimal places in the divisor the number of decimal places in the answer will be **reduced** accordingly and when there are decimal places in the dividend the number of decimal places in the answer will be **increased** accordingly (see examples 2 and 3).

Example 3 *

```
        1 4 2. 8 6 –
        1 4 2. 8 6 –
        1 4 2. 8 6 –
      1. 4 2 8. 6 0 –
      1. 4 2 8. 6 0 –
      1. 4 2 8. 6 0 –
    1 4. 2 8 6. 0 0 –
    1 4. 2 8 6. 0 0 –
    1 4. 2 8 6. 0 0 –
    1 4. 2 8 6. 0 0 –
1 4 2. 8 6 0. 0 0
  8 1. 0 0 1. 6 2 *
```

Example 1:

$32 : 8 = 4.$
$32 : 8 = 32 \times {}^1/_8.$

1. Set the reciprocal of 8 (.12500) on the keyboard.
2. Multiply by 32.
3. Press the total key and mark off five decimal places counting from the right; this gives you the answer of 4.

Example 2: $52.5 : 15 = 3.5$

1. Set the reciprocal of 15 (.066667) on the keyboard.
2. Multiply by 525.
3. Press the total key and mark off seven decimal places (six for the six digits in the reciprocal and one for the dividend) counting from the right; this gives you the answer of 3.5.

Example 3: $567 : 0.7 = 810.$

1. Set the reciprocal of 7 (14286) on the keyboard.
2. Multiply by 567.
3. Press the total key and mark off four decimal places (five for the five digits in the reciprocal less one for the divisor) counting from the right; this gives you the answer of 810.

14 Paper Feed

The paper feed operates automatically but the tape can also be wound forwards or backwards by means of the platen knob (12).

15 Opening the Top Cover

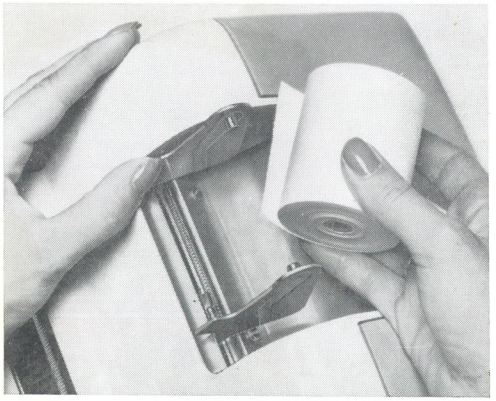
To change the tape or the ribbon the top cover must be opened. This is done by pressing the key (13).

See figure on next page.

Opening the Top Cover.

16 Changing the Paper Roll

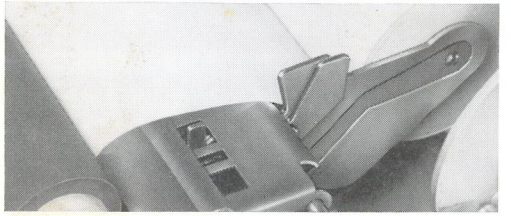
Push the left hand paper guide (14) as far to the left as it will go when the paper roll will be released. Put the new roll between the two guides with their pins fitting into the hole in the roll (see illustration). Open the cover hatch and pull out about 10 inches of the paper roll passing it under the platen and turning it on



with the platen knob. Guide the tape under the transparent tear-off bar and, keeping the tape taut, close the top cover.

17 Paper Release Knob

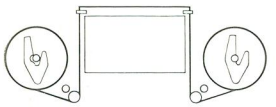
If the tape is not straight it can be adjusted when the knob (15) is in the zero position. Do not forget to restore the lever to the normal position before beginning a calculation.



As one of the paper guides is sprung rolls up to 2¾ inches in width can be used without any adjustment. If it is desired to use wider paper rolls the right hand paper guide can be released by touching the lever (see figure) when it will move sufficiently to allow rolls up to 3½ inches wide to be used.

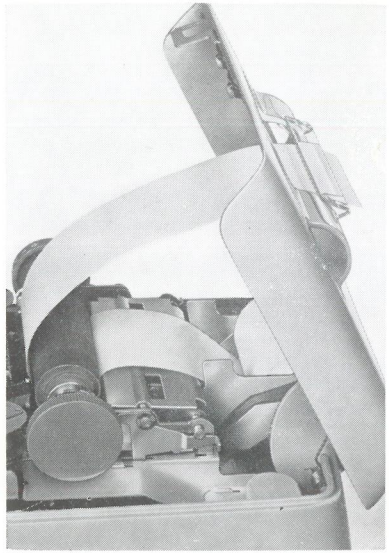
18 Line Spacing

The line spacing can be set to single or double spacing by moving the knob (15) to positions 1 or 2 respectively.



19 Changing the Ribbon

Open the top cover (13) and, moving the spool locks (see figure) to one side, take off the two spools. As the ribbon is always supplied on a left hand spool the old left hand spool may be discarded while the right hand spool should be relieved of the old ribbon and the new attached. Replace the spools and see that the ribbon is passing through through the ribbon guides and round the reversing pins (see illustration). Lock the spools with the spool locks and close the top cover; the ribbon reverses automatically.



Introduction of paper tape

Changing the Ribbon

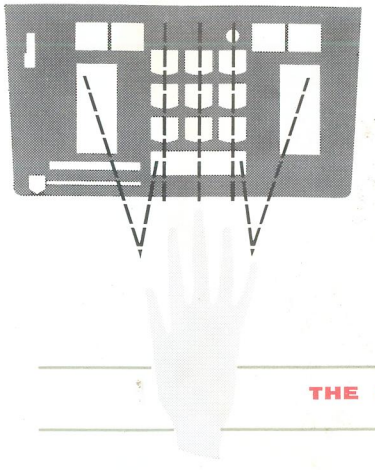
20 Moving the machine

If the machine is to be moved on the desk lift the front using the grip in the baseplate. The machine will now slide easily over the desk.

MOTOR

The machine is fitted with an asynchronous motor for a 110, 150 or 220 power supply. It is fitted with a suppressor to prevent interference with radio, television and radar.

If desired the machine can be fitted with a universal motor for both A. C. and D. C. power supplies.



THE TOUCH METHOD OF OPERATION

The touch method of operation is the quickest and most accurate method for adding machine operation just as it is for typing. The operator's output is increased while her fatigue is reduced.

The position of the fingers for right and left hand operation are shown in the illustration on the left and in the following pages are ten practice examples specially designed to make you proficient in the touch method. The examples increase in difficulty as you progress so don't proceed to the next until you have done each example five times without looking at the keyboard.

To begin with, do not think about speed — it will come automatically with practice. Think instead about accuracy and try to maintain a steady rythm. Do not press the keys too hard or tense your hand for the Addo-X has a feather touch. Try to make the movements of your fingers as natural and as concise as possible; you can reach every key with only a slight finger movement thanks to the symmetrical keyboard.

```
        *          *          *          *
    4.4 4      7 5.3 6    1 2 5.0 0      7 9 8.7 2
    6.6 6      9 2.1 4      3 2 1.5 0      5 2 2.9 0
    5.5 5      8 2.4 6    4 8 5.2 5        1 4.1 5
    4.5 6      7 9.1 3    3 2 5.1 5    3.6 4 6.3 8
    6.5 4      2 0.5 8    7 8 9.6 9      4 6 4.8 4
    5.6 4      4 9.0 3    6 4 5.2 8          4.8 8
    5.4 6      6 2.2 3    1 5 2.3 4    4.2 9 8.5 0
    4.1 5      4 8.9 0    3 2 6.5 1      3 0 3.7 8
    4.5 7      8 3.8 3    2 1 4.5 7        4 7.1 2
    5.1 7      4 6.5 7    6 9 8.5 0    2.8 3 5.1 2
    5.1 8      3 6.9 8    1 0 2.5 4    8.3 6 9.7 0
    5.4 8      1 2.3 4    7 4 0.2 8      4 7 0.8 1
    5.3 6      4 5.6 7    2 5 0.1 3      1 2 5.3 3
    5.6 9      7 8.9 0    1 4 5.2 5        1 8.4 2
    6.5 8      1 2.7 8    3 2 6.9 1      7 0 7.9 1
    6.5 2      2 1.0 0    7 0 4.8 3      8 0 6.7 9
    6.1 8      5 8.7 6    3 1 0.6 1      7 8 1.5 9
    4.3 8      3 4.8 7    6 5 2.5 0    4.8 8 1.3 4
    9.1 3      3 2.8 9    4 1 2.3 7  2 1.6 5 2.6 2
    7.1 9      1 8.6 5    3 0 5.0 1      5 2 1.9 6
    3.9 7      7 8.5 2    1 0 0.5 0          7.0 8
    5.8 2      8 5.2 1    4 8 9.3 1      5 6 3.4 8
    6.3 9      2 3.6 9    9 1 3.7 9  3 8.2 1 1.5 7
    1.4 7      1 1.2 6    4 1 2.5 5        5 2.3 0
    9.5 1      5 6.0 7    7 8 4.5 6      5 0 1.2 8
    3.5 7      2 3.1 0    9 7 8.0 3      1 2 5.8 7
1 4 5.1 6*  1.2 7 0.9 2*  1 1.7 1 2.9 6*  9 0.7 3 4.4 4*
```

```
        *          *          *          *
    1.5 3 2.4 6    7 6 7.8 6    7 9 2.8 3
  3 2.4 5 9.8 4    4 5 5.1 0      2 0 4.5 0
    7.5 6 2.0 0    9 7 5.4 2    3.8 1 9.4 4
    9.8 4 5.2 3  2.1 9 8.3 8□   1.1 5 4.2 5
    7.8 5 6.2 1    8 6 0.3 1      1 5.6 6-
  1 2 6.5 7 8.9 1    1 4.5 6    1 2 3.5 4-
  3 1 6.4 9 7.1 5  9 0 6.0 1      2 3.4 5
    9 5.7 5 3.1 0    2 0.0 8      1 2.7 8
    2.0 3 3.2 5  4 8 2.5 6      5 1.8 3-
    1.3 2 4.6 5  3 4 6.9 7      1 5 8.9 9
  5 1 6.5 9 9.2 7  5 2 0.8 7    4 5 0.8 7-
3.6 4 2.8 4 5.6 1  5.3 4 9.7 4□   2 4 5.8 7
  2 4 9.7 6 4.1 2    4 7 4.0 0    3 2 5.8 7
    1.9 3 7.4 6    2 9 0.3 3    9 8 7.3 1
          3.7 5    3 5 2.5 4      1 1.2 6
    1.6 7 9.4 3  6.4 6 6.6 1□   4 5 2.2 3-
    2.8 4 6.3 7    4 1 4.7 5      8 5.2 1-
    2.8 3 8.5 0  3.6 4 0.4 8    1 5 9.6 3
  4 3 9.4 7 5.0 7    1 2 0.3 4      2 1.0 0-
  1 2 4.5 8 9.6 5    7 3 1.5 0  6.6 9 5.8 4*
  1 2 8.4 7 1.2 3  1 1.3 7 3.6 8*
  9 2 7.3 0 8.7 1
      1 5 6.3 7
  5 7 8.2 4 1.0 9
      4 4 7.1 1
7.2 1 8.6 4 6.5 4*
```



```
        *          *          *
    6.7 8 9.2 3  3 4.6 7 8.0 9 5.6 3  9.6 8 5.3 0 2.0 1 6.3 3
      4 5.8 7-   1 2.5 8 0.3 6 5.8 0      1 2.0 8 0.3 6 5.4 0-
    6 4.1 2 0-     6 2.1 4 8 9.1 3-  6.3 6 3.8 8 9.6 3 3.0 0
    1 5 2.8 7          1 2.8 7      6.9 8 5.2 3 6.9 8 7.5 5
      8 7.6 6-     3 0 6.5 0 8.9 0-  6.3 6 6.9 6 5.5 1 4.5 5
    3 5 8.7 0  9 8.7 3 1.9 2 8.6 7        3.2 5 8.5 2-
    1 0 2.8 1  1 4 5.0 6 2.4 0 4.9 4□  6.3 6 9.9 6 6.5 4 4.6 6
    1 4 3.1 2-   6 0.5 0 4.0 7 0.8 0  3 5.7 5 9.2 7 7.0 7 2.1 7□
  6.4 8 5.7 6□   6 0.5 0 4.0 7 0.8 0    8.6 0 5.7 0 8.6 3 2.1 0
2 8.3 3 6.9 7    6 0.5 0 4.0 7 0.8 0    9.7 6 8.5 2 3.6 0 2.1 4
    2 1.6 6-     6 0.5 0 4.0 7 0.8 0  5 4.1 3 3.5 0 9.3 0 6.4 1□
    3 2 1.5 8-           1 2.5-       1.4 2 2.0 4 6.2 4 9.1 4
3 4.4 7 9.4 9□           3.2 1-     5 5.5 5 5.5 5 5.5 5 5.5 5*
    2 0 2.1 1      2 5 8.7 3-
    6 3 1.0 7  3 8 7.0 7 8.4 2 4.9 5□
      7 9.1 2        6 5.4 8 0.8 9-
    4 5 5.2 8-       6 5.4 8 0.8 9-
3 4.9 3 6.5 1*       6 5.4 8 0.8 9-
                     6 5.4 8 0.8 9-
                     6 5.4 8 0.8 9-
                   9 8.0 7 0.8 7 8.4 6
                     1 5.1 7 8.1 0 1.0 4
                   5 0 0.0 0 0.0 0 0.0 0*
```

```
        *
    1.2 5◁
    5.5 5
    5.5 5
  5 5.5 0
  5 5.5 0
  5 5.5 0
  5 5.5 0
2 3 3.1 0□
  6 4.0 0-
    2.5 0-
  1 5.0 0-
1 5 1.6 0□
2 3 3.1 0-
  8 1.5 0*C
```

11 Wages Calculations

Workman's No.	Hourly rate	Number of hours	Gross wages
125	5.55	42	?

Tax	Insurance	Advanced	Net wages
64.00	2.50	15.00	?

First enter the workman's number with the Non-Add key (8). Next multiply his hourly rate by the number of hours worked and take a sub-total; this is the amount of gross wages — 233.10. Now subtract the deductions and take another sub-total; this is the amount of net wages — 151.60. Finally, subtract the gross wages and take a total; this is the total amount of the deductions — 81.50.

```
                *
      325.64
      789.65
      365.41
1.480.70□
2.000.00-
  519.30□C
  600.00
    80.70*
```

12 Bank Problems

a. Deposits.

Kr 2.000.00 is to be paid into an account in the form of three cheques worth Kr 325.64, Kr 789.65 and Kr 365.41. The remaining Kr 519.30 is to be paid in cash by means of six Kr 100 notes. The cashier must therefore discover (a) the total value of the cheques, (b) how much is to be paid in cash and (c) how much change the depositor should receive.

First add the cheque amounts and take a sub-total; this is the total value of the cheques — Kr 1,480.70. Now subtract the sum to be deposited, i.e. Kr 2,000.00, and take another sub-total; this is the amount to be paid in cash — Kr 519.30. Finally, add the sum which the depositor offers, i.e. Kr 600.00, and take a total; this is the amount of change the depositor must be given.

```
                *
1.501.00◁

  499.70◁

    5.17-
   51.70-
  517.00-
5.170.00
4.596.13*

  45.96
  45.96
  91.92□
   3.00
  10.00
   1.00
 105.92□
4.596.13-
4.490.21*C
```

b. Rendering Accounts of Collection Transactions

	Date	Nr	Amount
	15/1/00	49970	$889.00 at Kr. 5.17 to $ 1.00 Kr 4,596.13

Comm. 2 %	Doc. comm.	Carriage	Misc.		
Kr 91.92	Kr 3.00	Kr 10.00	Kr. 1.00	Kr	105.92
				Kr	4,490.21

There are four things to be discovered; (a) amount in Swedish Kronor of $ 889.00, (b) the amount of the commission, (c) the total charges and (d) the net amount.

First enter the date and the transaction number with the Non-Add key (8). Next multiply the rate of exchange by the number of dollars and take the total (Kr 4,596.13). Next multiply 1 % of 4,596.13, which is 45.96, by the percentage rate of two and take a sub-total which is the amount of commission (Kr 91.92). Now add the other bank charges and take another sub-total which is the total amount of the bank charges (Kr 105.92). Finally, subtract the gross amount and take o total which is the net amount (Kr 4,490.21).


```
                *
    123
    354
    685
    452
    259
18.73□
50.00-
31.27*C
```

13 Retailing Calculations

A person buys goods in a shop to the total value of Kr 18.73. The customer pays with a Kr 50 note so the shop assistant must find (a) the total value of the customer's purchases and (b) the amount of change he must have.

First add the various items and take a sub-total which is the total value of the goods purchased (Kr 18.73). Now subtract the amount presented for payment and take a total which is the amount of change the customer must have (Kr 31.27).

```
                *
   12.25-
   12.50-
1.225.00
1.225.00
2.315.25□
   46.75-
   46.75-
   46.75-
4.675.00
6.429.25□
   29.75-
   29.75-
   29.75-
2.975.00
2.975.00
11.754.50*

                *
    67.25
   672.50-
   672.50-
   672.50-
6.725.00
4.774.75□
   47.75-
   47.75-
4.679.25□
4.774.75-
   95.50*C
```

14 Invoicing / Invoice checking / Calculating Discounts

a. Check the following invoice:

Quantity in kilograms	price per kilogram	total in Kronor	
12.25	1.89	23.15	
46.75	.88	41.14	
29.75	1.79	53.25	117.54

In this kind of checking the point is usually to prove the final total so you can omit the checking of the individual totals.

Multiply the quantities by the unit prices; after the first and second multiplication take a sub-total and after the final multiplication take a total which will show the final total.

b. 6,725 items at Kr 0.71 less 2 %.

It is necessary to discover the gross and net amounts and the amount of discount.

First multiply the number of items by the unit price and take a sub-total which is the gross amount (Kr 4,774.75). Next multiply **negatively** 1 % of the gross amount (Kr 47.75) by the percentage rate of two. You multiply negatively by using the repeat subtract key (10) instead of the repeat key. When you have done this take a sub-total which is the net amount (Kr 4,679.25). Finally, subtract the gross amount and take a total which is the amount of discount (Kr 95.50).

```
                *
        1 7.6 5
        1 7.6 5
      1 7 6.5 0
      2 1 1.8 0 □
  1.7 6 5.0 0 -
  1.5 5 3.2 0 *C
```

c. Kr 1,765 less 12 %

It is necessary to discover the discount and the net amount.

Multiply the gross value by 12 and take a sub-total which is the amount of discount (Kr 211.80).

Then subtract the gross amount and take a total which is the net amount (Kr 1,553.20).

```
                *
    3.7 6 4.5 5
    3.7 6 4.5 5
  3 7.6 4 5.5 0
  3 7.6 4 5.5 0
  3 7.6 4 5.5 0
  3 7.6 4 5.5 0
  1 5 8.1 1 1.1 0 □
3.7 6 4.5 5 0.0 0
3.9 2 2.6 6 1.1 0 *
```

d. Kr 3,764.55 plus 4.2 %

It is necessary to find the mark-up and the new value.

Multiply the original value by 42 and take a sub-total which is the mark-up (Kr 158.11). Add 376,455,000 (the three zeroes being added to allow for the percentage decimal) and take a total which is the new value.

15 Area Calculations

```
                *
        7.3 5 -
      7 3.5 0
      7 3.5 0
    7 3 5.0 0
    7 3 5.0 0
  1.6 0 9.6 5 □
        3.0 9 -
        3.0 9 -
      3 0.9 0 -
      3 0.9 0 -
  1.2 6 3.5 7 *
```

A wall 7.35 meters by 2.19 meters is to be papered. The wall has a window which measures 3.09 meters by 1.12 meters. Find the area to be papered.

First multiply 735 by 219 and take a sub-total wich is the total area of the wall. Next multiply 309 negatively by 112 using the repeat subtract key (10) instead of the repeat key. Take a total which is the area to be papered.

Reciprocal Table of Numbers from 1 to 1,000

The table gives the reciprocal as a decimal e.g. the reciprocal of $300 = \frac{1}{300} = 0.0033333$.

For numbers greater than 1,000 move the decimal point one place to the left for every additional digit in the number e.g. reciprocal of $3{,}000 = 0.00033333$; the reciprocal of $30{,}000 = 0.000033333$.

n	1/n	n	1/n	n	1/n	n	1/n
1	1.00000	41	024390	81	012346	121	0082645
2	50000	42	023810	82	012195	122	0081967
3	33333	43	023256	83	012048	123	0081301
4	25000	44	022727	84	011905	124	0080645
5	20000	45	022222	85	011765	125	0080000
6	16667	46	021739	86	011628	126	0079365
7	14286	47	021277	87	011494	127	0078740
8	12500	48	020833	88	011364	128	0078125
9	11111	49	020408	89	011236	129	0077519
10	10000	50	020000	90	011111	130	0076923
11	090909	51	019608	91	010989	131	0076336
12	083333	52	019231	92	010870	132	0075758
13	076923	53	018868	93	010753	133	0075188
14	071429	54	018519	94	010638	134	0074627
15	066667	55	018182	95	010526	135	0074074
16	062500	56	017857	96	010417	136	0073529
17	058824	57	017544	97	010309	137	0072993
18	055556	58	017241	98	010204	138	0072464
19	052632	59	016949	99	010101	139	0071942
20	050000	60	016667	100	010000	140	0071429
21	047619	61	016393	101	0099010	141	0070922
22	045455	62	016129	102	0098039	142	0070423
23	043478	63	015873	103	0097087	143	0069930
24	041667	64	015625	104	0096154	144	0069444
25	040000	65	015385	105	0095238	145	0068966
26	038462	66	015152	106	0094340	146	0068493
27	037037	67	014925	107	0093458	147	0068027
28	035714	68	014706	108	0092593	148	0067568
29	034483	69	014493	109	0091743	149	0067114
30	033333	70	014286	110	0090909	150	0066667
31	032258	71	014085	111	0090090	151	0066225
32	031250	72	013889	112	0089286	152	0065789
33	030303	73	013699	113	0088496	153	0065359
34	029412	74	013514	114	0087719	154	0064935
35	028571	75	013333	115	0086957	155	0064516
36	027778	76	013158	116	0086207	156	0064103
37	027027	77	012987	117	0085470	157	0063694
38	026316	78	012821	118	0084746	158	0063291
39	025641	79	012658	119	0084034	159	0062893
40	025000	80	012500	120	0083333	160	0062500

161 0062112	211 0047393	261 0038314	311 0032154
162 0061728	212 0047170	262 0038168	312 0032051
163 0061350	213 0046948	263 0038023	313 0031949
164 0060976	214 0046729	264 0037879	314 0031847
165 0060606	215 0046512	265 0037736	315 0031746
166 0060241	216 0046296	266 0037594	316 0031646
167 0059880	217 0046083	267 0037453	317 0031546
168 0059524	218 0045872	268 0037313	318 0031447
169 0059172	219 0045662	269 0037175	319 0031348
170 0058823	220 0045455	270 0037037	320 0031250
171 0058480	221 0045249	271 0036900	321 0031153
172 0058140	222 0045045	272 0036765	322 0031056
173 0057803	223 0044843	273 0036630	323 0030960
174 0057471	224 0044643	274 0036496	324 0030864
175 0057143	225 0044444	275 0036364	325 0030769
176 0056818	226 0044248	276 0036232	326 0030675
177 0056497	227 0044053	277 0036101	327 0030581
178 0056180	228 0043860	278 0035971	328 0030488
179 0055866	229 0043668	279 0035842	329 0030395
180 0055556	230 0043478	280 0035714	330 0030303
181 0055249	231 0043290	281 0035587	331 0030211
182 0054945	232 0043103	282 0035461	332 0030120
183 0054645	233 0042918	283 0035336	333 0030030
184 0054348	234 0042735	284 0035211	334 0029940
185 0054054	235 0042553	285 0035088	335 0029851
186 0053763	236 0042373	286 0034965	336 0029762
187 0053476	237 0042194	287 0034843	337 0029674
188 0053191	238 0042017	288 0034722	338 0029586
189 0052910	239 0041841	289 0034602	339 0029499
190 0052632	240 0041667	290 0034483	340 0029412
191 0052356	241 0041494	291 0034364	341 0029325
192 0052083	242 0041322	292 0034247	342 0029240
193 0051813	243 0041152	293 0034130	343 0029155
194 0051546	244 0040984	294 0034014	344 0029070
195 0051282	245 0040816	295 0033898	345 0028986
196 0051020	246 0040650	296 0033784	346 0028902
197 0050761	247 0040486	297 0033670	347 0028818
198 0050505	248 0040323	298 0033557	348 0028736
199 0050251	249 0040161	299 0033445	349 0028653
200 0050000	250 0040000	300 0033333	350 0028571
201 0049751	251 0039841	301 0033223	351 0028490
202 0049505	252 0039683	302 0033113	352 0028409
203 0049261	253 0039526	303 0033003	353 0028329
204 0049020	254 0039370	304 0032895	354 0028249
205 0048780	255 0039216	305 0032787	355 0028169
206 0048544	256 0039063	306 0032680	356 0028090
207 0048309	257 0038911	307 0032573	357 0028011
208 0048077	258 0038760	308 0032468	358 0027933
209 0047847	259 0038610	309 0032362	359 0027855
210 0047619	260 0038462	310 0032258	360 0027778

361 0027701	411 0024331	461 0021692	511 [illegible]
362 0027624	412 0024272	462 0021645	512 [illegible]
363 0027548	413 0024213	463 0021598	513 0019493
364 0027473	414 0024155	464 0021552	514 0019455
365 0027397	415 0024096	465 0021505	515 0019417
366 0027322	416 0024038	466 0021459	516 0019380
367 0027248	417 0023981	467 0021413	517 0019342
368 0027174	418 0023923	468 0021368	518 0019305
369 0027100	419 0023866	469 0021322	519 0019268
370 0027027	420 0023810	470 0021277	520 0019231
371 0026954	421 0023753	471 0021231	521 0019194
372 0026882	422 0023697	472 0021186	522 0019157
373 0026810	423 0023641	473 0021142	523 0019120
374 0026738	424 0023585	474 0021097	524 0019084
375 0026667	425 0023529	475 0021053	525 0019048
376 0026596	426 0023474	476 0021008	526 0019011
377 0026525	427 0023419	477 0020964	527 0018975
378 0026455	428 0023364	478 0020921	528 0018939
379 0026385	429 0023310	479 0020877	529 0018904
380 0026316	430 0023256	480 0020833	530 0018868
381 0026247	431 0023202	481 0020790	531 0018832
382 0026178	432 0023148	482 0020747	532 0018797
383 0026110	433 0023095	483 0020704	533 0018762
384 0026042	434 0023041	484 0020661	534 0018727
385 0025974	435 0022989	485 0020619	535 0018692
386 0025907	436 0022936	486 0020576	536 0018657
387 0025840	437 0022883	487 0020534	537 0018622
388 0025773	438 0022831	488 0020492	538 0018587
389 0025707	439 0022779	489 0020450	539 0018553
390 0025641	440 0022727	490 0020408	540 0018519
391 0025575	441 0022676	491 0020367	541 0018484
392 0025510	442 0022624	492 0020325	542 0018450
393 0025445	443 0022573	493 0020284	543 0018419
394 0025381	444 0022523	494 0020243	544 0018382
395 0025316	445 0022472	495 0020202	545 0018349
396 0025253	446 0022422	496 0020161	546 0018315
397 0025189	447 0022371	497 0020121	547 0018282
398 0025126	448 0022321	498 0020080	548 0018248
399 0025063	449 0022272	499 0020040	549 0018215
400 0025000	450 0022222	500 0020000	550 0018182
401 0024938	451 0022173	501 0019960	551 0018149
402 0024876	452 0022124	502 0019920	552 0018116
403 0024814	453 0022075	503 0019881	553 0018083
404 0024752	454 0022026	504 0019841	554 0018051
405 0024691	455 0021978	505 0019802	555 0018018
406 0024631	456 0021930	506 0019763	556 0017986
407 0024570	457 0021882	507 0019724	557 0017953
408 0024510	458 0021834	508 0019685	558 0017921
409 0024450	459 0021786	509 0019646	559 0017889
410 0024390	460 0021739	510 0019608	560 0017857

561	0017825	611	0016367	661	0015129	711	0014065
562	0017794	612	0016340	662	0015106	712	0014045
563	0017762	613	0016313	663	0015083	713	0014025
564	0017731	614	0016287	664	0015060	714	0014006
565	0017699	615	0016260	665	0015038	715	0013986
566	0017668	616	0016234	666	0015015	716	0013966
567	0017637	617	0016207	667	0014993	717	0013947
568	0017606	618	0016181	668	0014970	718	0013928
569	0017575	619	0016155	669	0014948	719	0013908
570	0017544	620	0016129	670	0014925	720	0013889
571	0017513	621	0016103	671	0014903	721	0013870
572	0017483	622	0016077	672	0014881	722	0013850
573	0017452	623	0016051	673	0014859	723	0013831
574	0017422	624	0016026	674	0014837	724	0013812
575	0017391	625	0016000	675	0014815	725	0013793
576	0017361	626	0015974	676	0014793	726	0013774
577	0017331	627	0015949	677	0014771	727	0013755
578	0017301	628	0015924	678	0014749	728	0013736
579	0017271	629	0015898	679	0014728	729	0013717
580	0017241	630	0015873	680	0014706	730	0013699
581	0017212	631	0015848	681	0014684	731	0013680
582	0017182	632	0015823	682	0014663	732	0013661
583	0017153	633	0015798	683	0014641	733	0013643
584	0017123	634	0015773	684	0014620	734	0013624
585	0017094	635	0015748	685	0014599	735	0013605
586	0017065	636	0015723	686	0014577	736	0013587
587	0017036	637	0015699	687	0014556	737	0013569
588	0017007	638	0015674	688	0014535	738	0013550
589	0016978	639	0015649	689	0014514	739	0013532
590	0016949	640	0015625	690	0014493	740	0013514
591	0016920	641	0015601	691	0014472	741	0013495
592	0016892	642	0015576	692	0014451	742	0013477
593	0016863	643	0015552	693	0014430	743	0013459
594	0016835	644	0015528	694	0014409	744	0013441
595	0016807	645	0015504	695	0014388	745	0013423
596	0016779	646	0015480	696	0014368	746	0013405
597	0016750	647	0015456	697	0014347	747	0013387
598	0016722	648	0015432	698	0014327	748	0013369
599	0016694	649	0015408	699	0014306	749	0013351
600	0016667	650	0015385	700	0014286	750	0013333
601	0016639	651	0015361	701	0014265	751	0013316
602	0016611	652	0015337	702	0014245	752	0013298
603	0016584	653	0015314	703	0014225	753	0013280
604	0016556	654	0015291	704	0014205	754	0013263
605	0016529	655	0015267	705	0014184	755	0013245
606	0016502	656	0015244	706	0014164	756	0013228
607	0016474	657	0015221	707	0014144	757	0013210
608	0016447	658	0015198	708	0014124	758	0013193
609	0016420	659	0015175	709	0014104	759	0013175
610	0016393	660	0015152	710	0014085	760	0013158

761	0013141	811	0012330	861	0011614	911	0010977
762	0013123	812	0012315	862	0011601	912	0010965
763	0013106	813	0012300	863	0011587	913	0010953
764	0013089	814	0012285	864	0011574	914	0010941
765	0013072	815	0012270	865	0011561	915	0010929
766	0013055	816	0012255	866	0011547	916	0010917
767	0013038	817	0012240	867	0011534	917	0010905
768	0013021	818	0012225	868	0011521	918	0010893
769	0013004	819	0012210	869	0011507	919	0010881
770	0012987	820	0012195	870	0011494	920	0010870
771	0012970	821	0012180	871	0011481	921	0010858
772	0012953	822	0012165	872	0011468	922	0010846
773	0012937	823	0012151	873	0011455	923	0010834
774	0012920	824	0012136	874	0011442	924	0010823
775	0012903	825	0012121	875	0011429	925	0010811
776	0012887	826	0012107	876	0011416	926	0010799
777	0012870	827	0012092	877	0011403	927	0010787
778	0012853	828	0012077	878	0011390	928	0010776
779	0012837	829	0012063	879	0011377	929	0010764
780	0012821	830	0012048	880	0011364	930	0010753
781	0012804	831	0012034	881	0011351	931	0010741
782	0012788	832	0012019	882	0011338	932	0010730
783	0012771	833	0012005	883	0011325	933	0010718
784	0012755	834	0011990	884	0011312	934	0010707
785	0012739	835	0011976	885	0011299	935	0010695
786	0012723	836	0011962	886	0011287	936	0010684
787	0012706	837	0011947	887	0011274	937	0010672
788	0012690	838	0011933	888	0011261	938	0010661
789	0012674	839	0011919	889	0011249	939	0010650
790	0012658	840	0011905	890	0011236	940	0010638
791	0012642	841	0011891	891	0011223	941	0010627
792	0012626	842	0011876	892	0011211	942	0010616
793	0012610	843	0011862	893	0011198	943	0010604
794	0012594	844	0011848	894	0011186	944	0010593
795	0012579	845	0011834	895	0011173	945	0010582
796	0012563	846	0011820	896	0011161	946	0010571
797	0012547	847	0011806	897	0011148	947	0010560
798	0012531	848	0011792	898	0011136	948	0010549
799	0012516	849	0011779	899	0011123	949	0010537
800	0012500	850	0011765	900	0011111	950	0010526
801	0012484	851	0011751	901	0011099	951	0010515
802	0012469	852	0011737	902	0011086	952	0010504
803	0012453	853	0011723	903	0011074	953	0010493
804	0012438	854	0011710	904	0011062	954	0010482
805	0012422	855	0011696	905	0011050	955	0010471
806	0012407	856	0011682	906	0011038	956	0010460
807	0012392	857	0011669	907	0011025	957	0010449
808	0012376	858	0011655	908	0011013	958	0010438
809	0012361	859	0011641	909	0011001	959	0010428
810	0012346	860	0011628	910	0010989	960	0010417

961 0010406	971 0010299	981 0010194	991 0010091
962 0010395	972 0010288	982 0010183	992 0010081
963 0010384	973 0010277	983 0010173	993 0010070
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967 0010341	977 0010235	987 0010132	997 0010030
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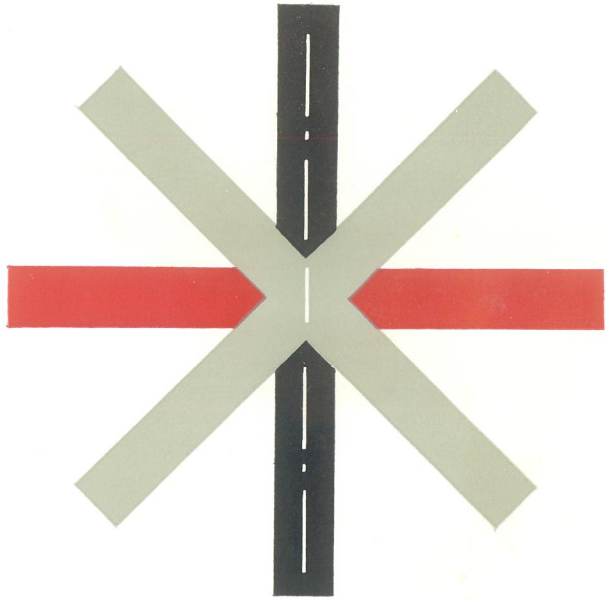
969 0010320	979 0010215	989 0010111	999 0010010
970 0010309	980 0010204	990 0010101	1000 0010000

MAINTENANCE

Your new Addo-X is a quality machine built for many years of service. With its new style casing the machine is well protected but even the best of machines needs a check up occasionally.

It is good policy to have your machine inspected at least once a year and the person best qualified for the job is your Addo dealer who has specially trained mechanics.



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